

## African Americans twice as likely to have clogged leg arteries

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**B**eing African American can double your risk of developing clogged leg arteries – a condition called peripheral artery disease (PAD), according to a University of California, San Diego (UCSD) School of Medicine study, published in the October 25 issue of *Circulation: Journal of the American Heart Association*.

“Our study found that African-American ethnicity was a strong and independent risk factor for peripheral arterial disease,” said lead author Michael H. Criqui, M.D., M.P.H., professor of family and preventive medicine at UCSD. “It had been presumed that the excess of PAD in African Americans was due to a greater proportion of African Americans having diabetes and hypertension. Even though we found a link with those conditions, we were surprised that they only explained part of the risk.”

In peripheral arterial disease (PAD), arteries outside of the heart and brain – most often the legs – become clogged by cholesterol-rich plaque. The classic complaint is intermittent claudication – painful cramping in the hips, thighs or calves that occurs during exercise and eases a few minutes after stopping. When the leg blockage is severe, pain is more constant. Severe PAD can also slow the healing of wounds to the feet and, in severe cases, may lead to amputation. However, if caught early, PAD and claudication can often be treated through diet and exercise, and walking programs can prove very useful to patients with the disease.

PAD is a marker for atherosclerosis elsewhere in the body. An estimated eight million Americans have PAD.

Criqui suggested that physicians be alert to the increased possibility of PAD in African Americans.

“Physicians decide which patients to check carefully for PAD based on their age and other risk factors,” he said. “This research says that physicians need to be particularly alert to the possibility of PAD in their African-American patients. Their independent increased risk is as high as someone in another ethnic group 10 years older, or who smoked a pack of cigarettes a day for 20 years.”

Researchers examined 2,343 people, ages 29 to 91, for the presence of PAD. They compared rates among members of four ethnic groups – 1,401 non-Hispanic whites, 322 African Americans, 341 Asians and 279 Hispanics. Most were randomly chosen from current or retired employees of the University of California, San Diego and their spouses, and most participants had health insurance and access to medical care.

Previous studies of ethnicity and PAD underestimated the occurrence of the disease by classifying people as unaffected if they currently showed good circulation but had previously undergone surgery to unblock a clogged artery, Criqui said.

In this study, researchers used Doppler ultrasound to measure blood pressure in the leg arteries, and compared blood pressure readings taken in the ankles with those in the arms (the ankle-brachial index) to look for a deficit in lower-limb circulation. People were considered to have PAD in any of three circumstances:

- → blood pressure in the ankles was less than 90 percent of the arm measurements;
- → blood pressure in the leg arteries was abnormal;
- → or they previously had surgery for PAD;

Overall, there were 104 cases of PAD. Men (6.1 percent) were more likely to be affected than women (3.6 percent). The rates of PAD increased sharply with age, roughly doubling for each decade from 1.2 percent for those ages 50 and younger to 10.2 percent for those ages 70 or older.

In the ethnic group comparisons, researchers found PAD in 7.8 percent of African Americans, 4.9 percent of non-Hispanic whites, 1.8 percent of Hispanics and 1.4 percent of Asians.

“We did not have enough Hispanic or Asian participants to definitively exclude any ethnic differences in PAD, but there did not seem to be a pronounced difference,” Criqui said.

Several factors significantly raised the risk of PAD in the study—diabetes, hypertension, cigarette smoking, a ratio of high total cholesterol to low HDL cholesterol and a history of cardiovascular disease. After controlling for these factors, African Americans had 2.34 times the risk of non-Hispanic whites.

To determine whether the higher incidence of PAD in African Americans might be related to less vigorous treatment of cardiovascular risk factors, the researchers examined medication records. They found that African Americans with high blood pressure or high cholesterol were just as likely to be taking medication for these conditions as participants in other ethnic groups.

People who notice pain in their legs after walking a block or more, even if the pain subsides with rest, could have PAD. PAD causes the artery that normally supplies blood to the muscle to get narrow, so that less blood can flow through the artery. A working muscle needs more blood, which is why a patient feels this pain after exercise. A doctor who suspects a patient's arteries have narrowed might first simply listen to the blood flow through a stethoscope, before ordering further tests to check blood flow in the leg.

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